Neurology Asia 2010; 15 (Supplement 1) : 51

Treatment with antiepileptic drugs after epilepsy surgery

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Background and Objective: In recent years, epilepsy surgery has developed rapidly in China. With the increase in the number of postoperative patients, the question of whether antiepileptic drugs (AEDs) can be used effectively in these patients has become increasingly important. We evaluated AED use in 170 patients with epilepsy who underwent surgery from 2002 to 2005. This is to evaluate the efficacy of AEDs after epilepsy surgery and its influencing factors.

Methods: Patients with epilepsy who received surgical treatment at our hospital from 2002 to 2005 (n = 170) were divided into three groups according to the surgery date. Patients in group A underwent surgery from 2002 to October 2003. Patients in group B underwent surgery from November 2003 to October 2004 and then received education on drug use from pharmacists and clinicians. Patients in group C underwent surgery from November 2004 to October 2005 and received integrated pharmaceutical care. Observations included (1) Efficacy: The criteria for efficacy after epilepsy surgery proposed by Qifu Tan [1] were used; satisfactory referred to patients with no seizures or only one or two seizures per year. Because the patients underwent surgery at different times, this study compared the seizure incidences 1 year after surgery. (2) Safety: Incidences of adverse drug reactions and AED toxicity were assessed. (3) Compliance with AED use: This included the method of drug use, omission of drug doses, taking medication at equal time intervals, and intake of prohibited foods. (4) Perioperative medication: This included the use of hormones and antibiotics and the prescription at discharge. (5) Integrated pharmaceutical care[2] evaluation: This included patients' knowledge of drug effects, patients' awareness of adverse drug reactions, patients' awareness of pharmacists, pharmacist follow-up appointments, patient satisfaction, doctor and nurse satisfaction.

Results: The efficacy, safety, and compliance with AEDs were better in groups B and C than in group A. Among the 50 patients in group A, 56 patients in group B, 64 patients in group C, the differences in rates of good outcome among the three groups were statistically significant ($\chi^2 = 16.48$, $P < 0.001$). Further pairwise comparisons between each two groups revealed statistically significant differences in rates of good outcome between group B and group A ($\chi^2 = 7.08$, $P = 0.008$) as well as between group C and group A ($\chi^2 = 15.50$, $P = 0.0001$). After perioperative drug use was improved, the negative effects of perioperative drug use on the AEDs decreased. Significant differences were found among the three groups in indexes of medication compliance, including taking medication at equal time intervals, omission of drug doses, checking liver function and carrying out routine blood testing in a timely manner, monitoring of plasma drug concentrations, and developing good living habits. The patients in groups B and C received guidance from neurologists, neurosurgeons, and pharmacists. They were very satisfied with the integrated pharmaceutical care.

Conclusion: Clinicians, nurses, and clinical pharmacists collaborated to form a multidisciplinary team for the administration of postoperative drug treatment of epilepsy patients. This constituted a new medical service mode and improved the efficacy of treatment. Such an integrated individualized pharmaceutical care provided cooperatively by neurologists, neurosurgeons, and pharmacists is an improved mode of management of patients after epilepsy surgery.

References

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